Kansas Agricultural Experiment Station Research Reports

Volume 0
Issue 1 *Cattleman's Day (1993-2014)*

Article 980

1986

Kansas bull test 15-year summary

R.R. Schalles

K.O. Zoellner

W. Olson

Kansas bull test 15-year summary

Abstract

Bulls placed in Kansas Bull Tests have increased in weight, gain, frame, and scrotal circumference, while decreasing in fat thickness over the past 15 years. Bull buyers have been willing to pay for increased performance, with changes in bull prices generally reflecting changes in the other cattle prices.

Keywords

Cattlemen's Day, 1986; Kansas Agricultural Experiment Station contribution; no. 86-320-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 494; Beef; Weight; Gain; Frame; Scrotal circumference; Performance

Kansas Bull Test 15-Year Summary

R.R. Schalles, K.O. Zoellner, and Willard Olson

Summary

Bulls placed in Kansas Bull Tests have increased in weight, gain, frame, and scrotal circumference, while decreasing in fat thickness over the past 15 years. Bull buyers have been willing to pay for increased performance, with changes in bull prices generally reflecting changes in other cattle prices.

Introduction

The first Kansas Bull Test started at Beloit in June, 1971. A test was added at Yates Center in 1975 and moved to Potwin in 1982. In the 43 tests completed through spring 1985, 732 herds were represented by the 9946 bulls, whose 2195 sires represented 32 breeds. Bulls had been consigned from 13 states.

Procedure

Bulls 7-8 months old are delivered to the test stations each fall and spring, approximately 3 weeks before the test officially starts. They are weighed on 2 consecutive days at both the start and end of the 140-day test. Intermediate weights are obtained at 56 and 112 days. Since 1974, height has been measured at the 112-day weighing to calculate frame score. Loin eye area and backfat are measured by ultrasonic imaging at the 140-day weighing. Since 1975, scrotal circumference has been measured on all bulls eligible for sale. The rations have remained a constant 83 and 52 Mcal/cwt in NEm and NEg, respectively, for the final ration. Bulls in the upper two-thirds of the index, which is an average of the 140-day ADG ratio and end of test weight per day of age ratio, were eligible to sell through 1982. After 1982, bulls with our index of 100 or above were eligible to sell.

Results

The average daily gain of all bulls over all the 140-day tests was 3.18 lb, weight per day of age was 2.75 lb, and frame score has averaged 5.0 (Table 23.1). The adjusted weaning weight furnished by the consignor was 577 lb with an average starting test weight of 611 lb. The average loin eye area was 12.1 sq in; backfat has averaged 0.22 in. The average price of the 5122 bulls sold was $1072.

Average daily gain on test increased from 2.79 lb in 1971 to 3.46 lb in 1985, while weight per day of age increased from 2.48 lb. Adjusted 365-day weight increased from 931 to 1054 lb.

Frame score increased from 4.0 in 1973 to 5.2 in 1979, and has held steady at 5.2 to 5.4 since. Fat thickness decreased from 0.30 in (1974) to 0.21 in. (1978) and has remained constant since. Scrotal circumference of sale bulls has steadily increased from 31.5 cm in 1974 to 36.0 cm in 1985. Considerable variation was present between breeds; however, the number of bulls was too small to adequately compare some breeds.

Adjusted weaning weight and starting weight were correlated with later performance but weaning weight ratio was not. Correlations between loin eye area and growth traits and between frame score and growth traits were positive. Backfat and growth traits had negative correlations.

Seven breeds totaling 4854 bulls were used in a price analysis (Table 23.2). Gelbvieh and Simmental were the high selling breeds. Buyers paid for performance; they paid $86.84 for each 0.1 lb increase in weight per day of age at the end of the test. Each 0.1 lb increase in average daily gain on test brought $8.72 more. An increase of one frame score was worth $274.43. An increase of 0.1 lb in adjusted weaning weight was worth $1.19 and a 1 cm increase in scrotal circumference brought $8.21. The average price paid for bulls started at $553 in 1971, increased to a high $1391 in 1979, and decreased through 1985 to $1060 (Table 23.3).

Table 23.1. Average Performance by Breeds, 1971-1985

Breed	No.	Adj. Weaning Wt.	Test ADG	Final Wt/Day	Frame	365-day Wt	Scrotal Circum-ference
Amerifax	10	518	3.25	2.67	4.4	979	32.9
Angus	2006	523	2.98	2.57	3.9	954	34.3
Beefalo	4	544	2.68	2.51	4.3	957	30.9
Beefmaster	3	538	2.96	2.72	5.5	1005	NA
Blonde D'Aqutane	18	521	2.79	2.52	4.9	918	26.8
Brangus	40	519	2.62	2.44	4.5	903	33.4
Charolais	611	603	3.35	2.94	5.6	1075	33.2
Chianina	143	568	3.26	2.83	6.8	1041	32.2
Friesian	15	542	3.05	2.73	4.8	1001	34.4
Galloway	10	481	2.53	2.31	NA	864	NA
Gelbray	7	526	2.87	2.44	4.1	936	30.4
Gelbvieh	225	583	3.11	2.75	5.1	1024	34.5
Hereford	914	529	2.92	2.55	3.8	952	33.3
Herfex	6	456	3.04	2.31	4.2	846	33.6
Lemousin	374	544	3.04	2.63	4.6	970	31.0
Maine Anjou	122	558	3.41	2.83	5.3	1042	34.1
Marchigania	19	566	2.94	2.63	6.1	991	30.6
Milking Shorthorn	3	556	2.85	2.77	5.3	1011	34.6
Murry Gray	30	510	3.00	2.47	3.9	925	35.0
Norwegian Red	23	613	3.14	2.80	5.3	1040	32.4
Polled Hereford	718	499	2.89	2.50	3.6	920	32.7
Polled Shorthorn	3	525	2.69	2.66	4.7	937	NA
Romagnola	7	NA	3.22	2.69	5.4	NA	NA
Red Angus	28	500	3.03	2.51	3.4	925	34.2
Red Polled	9	540	2.63	2.59	5.1	954	32.2
Saler	10	474	2.82	2.44	4.6	878	30.3
Santa Gertrude	16	607	2.64	2.60	5.7	1013	35.4
Shorthorn	19	499	2.96	2.57	4.4	941	33.7
Simbra	3	538	2.47	2.48	6.0	919	32.4
Simmental	4510	580	3.36	2.87	5.7	1063	35.3
South Devon	20	548	3.28	2.87	5.6	1023	31.1
Tarentaise	20	517	3.11	2.62	4.3	926	34.4
Total	9946	577	3.18	2.75	5.0	1028	34.9

Table 23.2. Bull Prices by Breed, 1975-1985

Breed	Price
Angus	$876
Charolais	850
Gelbvieh	1178
Hereford	769
Limousin	845
Polled Hereford	702
Simmental	1025

Table 23.3. Bull Prices by Year

Year	Price
1971	$533
1972	612
1973	728
1974	778
1975	412
1976	615
1977	624
1978	941
1979	1391
1980	1197
1981	1170
1982	1126
1983	1123
1984	1052
1985	1060